

## 青海棘豆属三新种

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### THREE NEW SPECIES OF THE GENUS OXYTROPIS FROM QINGHAI

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关键词 棘豆属, 新种

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玛多棘豆 新种 图 1

*Oxytropis maduoensis* Y. H. Wu, sp. nov.

Species nova affinis *O. kansuensi* Bunge, sed planta acaule, pilis dense vestita, foliis non nisi 1.5~6 cm longis, foliolis ovatis vel oblongis 2~7 mm longis, 1~3 mm latis, pedunculis 1~6 cm longis, vexillorum limbis longo-ovatis, alis apice oblique obtusis vel interdum retusis differt.

Perennis, 3~8 cm alta. Radix palaris brunneola. Caulis nullus. Folia 1.5~6 cm longa, petiolis cupreis, 5~25 mm longis, cum rhachidibus pilis patulis vestitis; stipulae ovato-lanceolatae, in medio inter se connatae, 6~9 mm longae, dense adpresse albo-villosae; foliola 15~25, ovata vel oblonga, 2~7 mm longa, 1~3 mm lata, apice acuta, basi rotundata, utrinque dense adpresse albo vel stramineo-villosa. Racemus in capitulum compositus, dense multiflorus, pedunculus 1~6 cm longus, dense albo et immixto nigro-pilosus; bractae membranaceae, ovato-lanceolatae, 5~8 mm longae, pilis albis et brunneis parce vestitae; calyx tubuloso-campanulatus, 8~10 mm longus, 3~4 mm latus, interdum paulo turgidus, dense nigro-pubescent et immixto albo-pilosus, dentibus subulatus, c. 3 mm longus; corolla flava; vexillum c. 13 mm longum, limbo longo-ovato, 6~7 mm lato, apice emarginatum, ungue 5~6 mm longo; alae c. 11 mm longae, limbo anguste obovato, apice oblique obtusa vel interdum retusa, ungue 6 mm longo, auriculis 1.5 mm longis; carinae 9~10 mm longae, mucrone 0.5~1 mm longa, unguibus 5~6 mm longis; ovarium lineare, pilis vestitum vel glabrum. Legumen ignotum.

**Qinghai:** Maduo Xian (玛多县), ad pratis alpinam. alt. 4 300 m, 1976-07-25, Wu Yuhu (吴玉虎) 021 (Typus, HNWP); Chengduo Xian (称多县), Qingshuihe (清水河), alt. 4 450 m, 1966-05-24, Zhou Lihua (周立华) 007; Qumalai Xian (曲麻莱县) Qumahe (曲麻河) alt. 4 500-4 600 m, 1966-07-09, Huang Rongfu (黄荣福) 063.

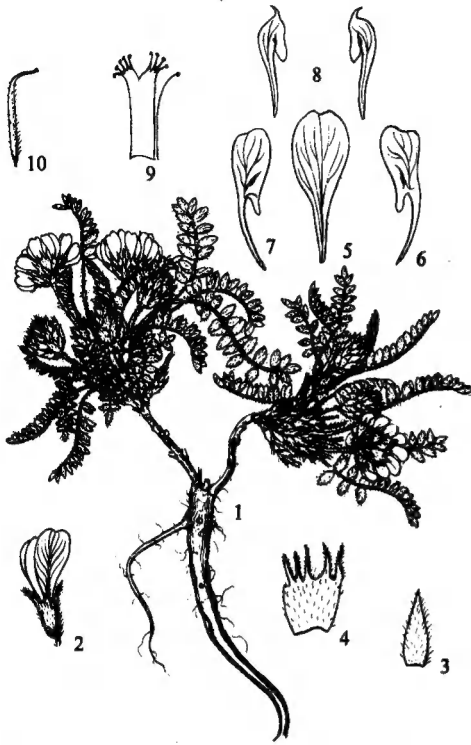


图 1 玛多棘豆 *Oxytropis maduoensis* Y. H. Wu, 1. 植株; 2. 花; 3. 苞片; 4. 花萼展开; 5. 旗瓣; 6~7. 翼瓣; 8. 龙骨瓣; 9. 雄蕊; 10. 子房。(阎翠兰绘)

### 玛沁棘豆 新种 图 2

*Oxytropis maqinensis* Y. H. Wu, sp. nov.

Species nova affinis *O. xinglongshanica* C. W. Chang, sed stipulis ovato-lanceolatis vel lanceolatis, 9~12 mm longis, dense albo-pilosis, racemis dense multifloris, bracteis lanceolatis vel ovato-lanceolatis, 6~11 mm longis, albo-pilosis et brunneo-pilosis mixtis, leguminibus 15~20 mm longis, seminibus 2~3 mm longis differt.

Perennis, 20~40 cm alta. Radix palmaris brunneola. Caulis erectus, sulcus expertia, parce albo et nigro-pubescent. Folia 5~14 cm longa, petiolis 0.5~4 cm longis, cum rhachidibus parce pilis vestitis; stipulae inferae medio inter se connatae sed superae liberae, ovato-lanceolatae vel lanceolatae, 9~12 mm longae, dense albo-pilosae; foliola 15~23, ovato-lanceolata vel oblonga, 6~17 mm longa, 2~5 mm lata, apice acuminata, basi rotundata, utrinque pilis albis adpresse sparse vestitis. Racemus dense multiflorus; pedunculus 10~16 cm longus, pilis albis sparse vestitus vel interdum pilis nigris mixtus, interdum sub inflorescentia dense nigro-pubescentibus; bractae lanceolatae vel ovato-lanceolatae, 6~11 mm longae, dense albo-pilosae et brunneo-pilosae mixtis; calyx tubuloso-campanulatus, c. 11 mm longus, c. 3.5 mm latus, densius, albo-pilosus et brunneo-pubescent, dentibus linearibus 5~6 mm longis, corolla pallide violacea; vexillum 15~16 mm longum, limbo ovato c. 8 mm lato, apice emarginato, ungue c. 6 mm longo; alae 14 mm longae, limbo oblique longo-obovato, c. 4 mm lato, apice obtuso vel paulo retuso, unguibus c.

多年生草本，高 3~8 cm。主根褐色。无茎呈垫状。羽状复叶长 1.5~6 cm；叶柄紫铜色，长 5~25 mm，与叶轴同被开展毛；托叶卵状披针形，于中部合生，长 6~9 mm，密被贴伏白色长柔毛；小叶 15~25 枚，卵形或长圆形，长 2~7 mm，宽 1~3 mm，先端急尖，基部圆形，两面密被贴伏的白色或草黄色长柔毛。总状花序呈头状，密生多花，总花梗长 1~6 cm，密被白色并混生黑色长柔毛；苞片膜质，卵状披针形，长 5~8 mm，疏被白色和褐色柔毛；花萼筒状钟形，长 8~10 mm，宽 3~4 mm，有时稍膨胀，密被黑色短柔毛和白色长柔毛，萼齿钻状，长约 3 mm；花冠黄色；旗瓣长约 13 mm，瓣片卵形，宽约 6~7 mm，先端微凹，爪长 5~6 mm；翼瓣长约 11 mm，瓣片狭倒卵形，先端斜钝圆或偶有微凹，爪长约 6 mm，耳长约 1.5 mm；龙骨瓣长 9~10 mm，喙长 0.5~1 mm，爪长 5~6 mm；子房线形，无毛或被毛。荚果未见。花期 5~7 月。

本种同甘肃棘豆 *O. kansuensis* Bunge 相近。但植物无茎呈垫状，全株密被毛，叶长仅 1.5~6 cm，小叶卵形或长圆形，长 2~7 mm，宽 1~3 mm，总花梗仅长 1~6 cm，旗瓣的瓣片长卵形，翼瓣先端斜钝圆，可以区别。

6 mm longis; carinae 12 mm longae, apice cum mucrone c. 1 mm longae, unguibus c. 6 mm longis; ovarium lineare, glabrum vel parce pubescens. Legumen oblongum, 15~20 mm longum, c. 4 mm latum, ventre protunde sulcatum apice acutum, pilis subpatentibus nigris vel albis dense vestitus. Semina reniformia, 2~3 mm longa, brunnea.

**Qinghai:** Maqin Xian (玛沁县), Xihalong (西哈垄), ad pratis alpinam, alt. 3 550 m. 1990-08-04, Wu Yuhu (吴玉虎) 5 722(Typus, HNWP); Wu Yuhu 5 700, 5 688, 5 708, 5 633; Maduo Xian (玛多县), Heihai (黑海), alt. 4 000-4 500 m. 1981-09-16, Du Qing (杜庆) 512; Henan Xian (河南县), Amishan (阿米山), 1972-07-19, Guo Benzao (郭本兆) 9811; Xinghai Xian (兴海县), Sanatai (撒那台), alt. 3 330 m. 1963-07-12. ? 205; Gonghe Xian (共和县), Cakagou (茶卡沟), alt. 3 600 m. 1975-08-10, Guo Benzao 12 066.



图2 玛沁棘豆 *Oxytropis maqinensis* Y. H. Wu, 1. 植株; 2. 花萼; 3. 旗瓣; 4~5. 翼瓣; 6. 龙骨瓣; 7. 雄蕊; 8. 子房; 9. 荚果。(阎翠兰绘)

多年生草本, 高 20~40 cm。主根褐色。茎直立, 无沟槽, 疏被白色和黑色短柔毛。羽状复叶长 5~14 cm, 叶柄长 0.5~4 cm, 与叶轴疏被毛; 下面的托叶于中部合生, 上面的托叶离生, 卵状披针形或披针形, 长 9~12 mm, 密被白色长柔毛; 小叶 15~23 枚, 卵状披针形或长圆形, 长 6~17 mm, 宽 2~5 mm, 先端渐尖, 基部圆形, 两面疏被白色贴伏柔毛。总状花序密生多花; 总花梗长 10~16 cm, 疏被白

色或有时混生黑毛, 近花序处常密被黑色短柔毛; 苞片披针形或卵状披针形, 长 6~11 mm, 密被白色和褐色长柔毛; 花萼筒状钟形, 长约 11 mm, 宽约 3.5 mm, 密被白色长柔毛和褐色短柔毛, 萼齿线形, 长 5~6 mm; 花冠淡蓝紫色; 旗瓣长 15~16 mm, 瓣片卵形, 宽约 8 mm, 先端微凹, 爪长约 6 mm; 翼瓣长 14 mm, 瓣片斜长倒卵形, 宽 4 mm, 先端钝或偶有不明显微凹, 爪长 6 mm; 龙骨瓣长 12 mm, 喙长约 1 mm, 爪长 6 mm; 子房线形, 无毛或疏被毛。荚果长圆形, 长 15~20 mm, 宽约 4 mm, 腹缝线深凹, 先端急尖, 密被半开展的白色和黑色柔毛。种子肾形, 长 2~3 mm, 褐色。花期 7~8 月, 果期 8~9 月。

本种同兴隆山棘豆 *O. xinglongshanica* C. W. Chang 相似, 但本种托叶卵状披针形或披针形, 长 9~12 mm, 密被白色长柔毛, 总状花序密生多花, 苞片披针形或卵状披针形, 长 6~11 mm, 密被白色和褐色长柔毛, 荚果长 15~20 mm, 种子长 2~3 mm, 可以区别。

### 青南棘豆 新种 图 3

*Oxytropis qinghaiensis* Y. H. Wu, sp. nov.

Species nova affinis *O. qilianshanica* C. W. Chang et C. L. Zhang, sed vexillis 10 mm longis, 7~8 mm latis, alis vexillis aequilongis, 3~4 mm latis; limbo oblique longo-obovato, apice retusi; leguminibus oblongis, brunnescens, 8~10 mm longis differt.



图 3 青南棘豆 *Oxytropis qinghaiensis* Y. H. Wu, 1. 植株; 2. 幼叶及托叶; 3. 托叶; 4. 苞片; 5. 花萼; 6. 旗瓣; 7~8. 翼瓣; 9. 龙骨瓣; 10. 子房; 11. 荚果和苞片。

(阎翠兰绘)

Perennis, 10~16 cm alta. Radix palaris brunnea. Caulis nullus. Folia 3~10 cm longa, petiolus 1~5 cm longus, cum rhachis parce patulo-albo-pilosus; stipulae herbaceae, 1/3 inter se connatae et petiolam adnatae (parte libera triangulo-lanceolatae), 6~13 mm longae, albo-villosae; foliola 15~23, ovata vel oblonga vel ovato-lanceolata 3~13 mm longa, 2.5~5 mm lata, apice acuta, basi rotundata, utrinque pilis albis adpresse vestitis. Racemus dense multiflorus, pedunculus folio longior vel id aequans, parce patuluo-albo-pulosus, sub inflorescentia nigro-pubescentiis dense immixtus; bractae lineares, 4~6 mm longae, albo-villosae; calyx tubuloso-campanulatus, 6~7 mm longus, dense nigro-pubescentis et albo-pilosus immixtus, dentibus subulatis, tubum subaequans, utrinque pilis vestitis; corolla violacea; vexillum c. 10 mm longum, limbo ovato-rotundatum, 7~8 mm lato, apice emarginatum, ungue c. 3 mm longo; alae c. 10 mm longae, limbo oblique longo-obovato, 3~4 mm lato, apice oblique retusae, unguibus c. 2.5 mm longis; carinae c. 8 mm longae, mucronibus 0.5~1 mm longis, unguibus c. 2.5 mm longis; ovarium lineare, pilis albis parce vel dense

vestitis. Legumen coriaceum, oblongum, brunnescens, 8~10 mm longum, 3~4 mm latum, rostro c. 1.5 mm longo, parce albo-pubescent.

**Qinghai:** Nangqian Xian (囊谦县), Baiza (白扎), ad prope sylvam alpinam. alt. 3900-4100 m. 1985-06-18, Wang Weiyi (王为义) 266 (Typus, HNWP); Wang Weiyi 1985-06-13, 008, 090.

多年生草本, 高 10~16 cm。主根褐色。无茎。羽状复叶长 3~10 cm, 叶柄长 1~5 cm, 与叶轴疏被白色开展长柔毛; 托叶革质, 下部 1/3 合生并与叶柄贴生, 分离部分三角状披针形, 长 6~13 mm, 被白色长柔毛; 小叶 15~23 枚, 卵形或长圆形, 卵状披针形, 长 3~13 mm, 宽 2.5~5 mm, 先端急尖, 基部圆形, 两面被白色贴伏柔毛。总状花序密生多花; 总花梗长于或等于叶, 疏被开展的白色长柔毛, 近花序处和花序轴同时混生很密的黑色短柔毛; 苞片线形, 长 4~6 mm, 被白色长柔毛; 花萼筒状钟形, 长 6~7 mm, 密被黑色短柔毛和白色长柔毛, 萼齿钻状, 与萼筒近等长, 两面被毛; 花冠蓝紫色; 旗瓣长约 10 mm, 瓣片卵圆形, 宽 7~8 mm, 先端微凹, 爪长 3 mm; 翼瓣长 10 mm, 瓣片斜长倒卵形, 宽 3~4 mm, 先端斜微凹, 爪长 2.5 mm; 龙骨瓣长 8 mm, 喙长 0.5~1 mm, 爪长 2.5 mm; 子房线形, 疏或密被白色柔毛。荚果革质, 长圆形, 淡棕色, 长 8~10 mm, 宽 3~4 mm, 先端具喙长约 1.5 mm, 疏被白色短柔毛。花果期 6~9 月。

本种同祁连山棘豆 *Oxytropis qilianshanica* C. W. Chang et C. L. Zhang 相似, 但本种花大, 旗瓣长 10 mm, 宽 7~8 mm; 翼瓣等长于旗瓣, 宽 3~4 mm, 瓣片斜长倒卵形, 先端微凹, 荚果长圆形, 淡棕色, 长 8~10 mm, 可以区别。

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